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Claims

1. Method for operating a switching node (145, 155) of a communications network,
comprising the steps of

5   - receiving a communication service request,
    - processing the requested communications service,
characterized by
    - determining an operation mode of the switching node, wherein the determined operation
mode indicates whether the switching node is operatively for the processing of the requested
10   communication service part of a layered architectural environment providing a user plane layer
for user data and a control plane layer for signaling data, or part of a non-layered architectural
environment not providing a split between a user plane and a control plane, and
wherein the processing of the requested communications service comprises the operating of the
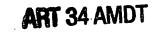switching node in the determined operation mode.

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2. Method according to claim 1, wherein the communications service request is a call set-up
request.

3. Method according to claim 1 or 2, wherein the operation mode is determined according to at
20   least one predetermined rule, which is set-up according to available network capabilities.

4. Method according to claim 1, 2 or 3, wherein a plurality of incoming routes from an access
network to the switching node are provided, at least one predetermined rule comprises an
assignment of a dedicated incoming route to an operation mode of the switching node, and
25   wherein the step of determining the operation mode comprises a determination of an incoming
route of the communication service request and a comparison of the determined incoming
route against at least one predetermined rule.

5. Method according to any preceding claim, wherein at least one predetermined rule
30   comprises an assignment of a dedicated access technology to an operation mode, said
dedicated access technology provided by an access network for serving a subscriber terminal
of a communication system comprising the switching node, and wherein the step of
determining the operation mode comprises the determination of the access technology used by

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the subscriber terminal and a comparison of the determined access technology against at least one predetermined rule.

6. Method according to any of the preceding claims, wherein the communication service
5 request comprises an identifier of a communications service terminating party, at least one predetermined rule comprises an assignment of the identifier to a dedicated operation mode, and wherein the step of determining the operation mode comprises a determination of the identifier and a comparison of the determined identifier against at least one predetermined rule.

10 7. Method according to any of the preceding claims, wherein at least one predetermined rule indicates by means of a statistical distribution factor a distribution, for how many received communications service requests the switching node shall operate as a switching node of the layered architectural environment or as a switching node of the non-layered architectural environment, and wherein the determined operation mode depends on the statistical
15 distribution factor.

8. Method according to any of the preceding claims, wherein the determination of the operation mode comprises a determination of a current load level of the switching node in at least one operation mode, and wherein the determined operation mode for the processing of the
20 requested communications service depends on the determined load level.

9. Method according to any of the claims 1, 2, 3, 7 or 8, wherein the communication service request requests a subscriber terminal terminating communications service, wherein at least one predetermined rule comprises an assignment of an access technology available to the
25 subscriber terminal to a dedicated operation mode, and wherein the step of determining the operation mode comprises the determination of the access technology available to the terminating subscriber terminal, and the determined operation mode depends on the determined access technology.

30 10. Method according to any of the preceding claims, wherein the switching node processes the requested communications service as a MSC/VLR, if the determined operation mode indicates that the switching node is part of the non-layered architectural environment.

11.   Method according to any of the claims 1 to 9, wherein the switching node processes the requested communications service as a MSC-Server, if the determined operation mode indicates that the switching node is part of the layered architectural environment.

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12.   Method according to any of the preceding claims, wherein the determination of the operation mode comprises a determination of at least one of a group of an origin of the communications service request and a destination of the communications service request, and wherein the determined operation mode depends on the at least one determined member of the

10   group.

13.   Method according to any preceding claims, wherein the switching node is determined operatively to process the requested communication service as part of the non-layered architectural environment, if an origin of the communications service request, in particular an

15   originating radio network node, is local to the switching node, and a destination indicated by the communications service request is local to the switching node.

14.   Method according to any preceding claims, wherein the switching node is determined operatively to process the requested communication service as part of the layered architectural

20   environment , if an origin of the communications service request, in particular an originating radio network node, is remote to the switching node, and a destination indicated by the communications service request is remote to the switching node.

15.   Method according to claim 14, wherein the switching node applies local switching, if

25   an origin of the communications service request, in particular an originating radio network node, is local to the destination indicated by the communications service request.

16.   Method according to any preceding claims, wherein the switching node is determined operatively to process the requested communication service as part of the layered architectural

30   environment, if an origin of the communications service request, in particular an originating radio network node, is remote to the switching node, and a destination indicated by the communications service request is local to the switching node.

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17. Method according to any preceding claims, wherein the switching node is determined operatively to process the requested communication service as part of the layered architectural environment, if an origin of the communications service request, in particular an originating
5　　radio network node, is local to the switching node, and a destination indicated by the communications service request is remote to the switching node.

18. Network node, in particular a combined MSC/VLR and MSC-Server, adapted to perform the method of operating a switching node according to any of the preceding claims.
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19. Network node, in particular a combined MSC/VLR and MSC-Server, comprising
an access network interface (200) for the user plane,
an access network interface (230) for the control plane,
a core network interface (220) for the user plane,
15　　a core network interface (250) for the control plane,
a media gateway interface (260),
a media gateway operation unit (210) connected to the user plane interfaces (200, 220) adapted to provide media gateway functions,
a MSC-Server operation unit (240) connected to the control plane interfaces (230, 250) and to
20　　the media gateway interface (260), the MSC-Server operation unit (240) adapted to provide MSC-server functionality,
a selection unit (280) adapted to determine for a communication service request received via any control plane interface (230, 250) according to at least one predetermined rule an operation mode for a processing of the requested communication service, wherein the determined
25　　operation mode indicates whether the network node is operatively for the processing of the requested communication service part of a layered architectural environment providing a user plane layer for user data and a control plane layer for signaling data, or part of a non-layered architectural environment not providing a split between a user plane and a control plane, and a processor (270) connected to the interfaces and units of the switching node, said
30　　processor (270) being adapted to process a requested communications service in accordance with a determined operation mode of the network node.

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20.   Network node according to claim 19, comprising means for storing, in particular a lookup table, of network node identifiers and related indications, indicating whether the identified network nodes are local or remote to the network node.

5   21.   Communications system comprising a network node according to claim 18, 19 or 20.

22.   Communications system comprising a layered architectural environment, in which a user plane layer is provided for user data and a control plane layer is provided for signalling data, and a non-layered architectural environment, which does not provide a split between the

10   user plane and the control plane, wherein a switching node, in particular a combined MSC/VLR-MSC Server, provides processing capabilities for the processing of communications services both within the layered and the non-layered architectural environment, and wherein at least one further network nodes served by said switching node is remote to said switching node.

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23. Computer program, loadable into the internal memory of a digital processing unit, comprising software code portions adapted to control the steps according to any of the method claims, when the computer program is executed on the digital processing unit.

20   24. Computer program according to the preceding computer program claim, wherein the computer program is stored on a computer-readable medium.

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